SRS Citizen's Advisory Board

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Nuclear Materials Committee

Meeting Summary

May 20, 2002
North Augusta Community Center
North Augusta, SC

The Citizens Advisory Board (CAB) Nuclear Materials (NM) Committee met on Monday, May 20, 6:00 p.m. at the North Augusta Community Center, North Augusta, SC. Topics discussed included: Canyon Utilization, F-Canyon Suspension, and Public Comment. Attendance was as follows:

CAB Members	Stakeholders	DOE/Contractors
Ken Goad*	David Costner	Howard Gnann, DOE
Wade Waters*	Bob Overman	Sachiko McAlhany, DOE
Bill Willoughby*	Melinda Holland	George Mishra, DOE
Perry Holcomb	John Austin	Jim Bolen, DOE
Jean Sulc	Ernie Chaput	George Klipa, DOE
Murray Riley*	Lee Poe	Bill Johnson, WSRC
Jimmy Mackey*	Mike French	Phil Breidenbach, WSRC
David Adcock	Russ Messick	Steve Williams, WSRC
Bill Vogele		Michael Chandler, WSRC
Nancy Ann Ciehanski	**Regulators**	Haffez Chaudhry, WSRC
William Lawrence*	None	Barry Myers, WSRC
		Ross Fanning, WSRC
		Teresa Haas, WSRC
		Helen Villasor, WSRC
		Lyddie Broussard, WSRC

*NM Members present
Note: Beckie Gaston-Dawson and Dorene Richardson are CAB members of the NM Committee, but were unable to attend this session.

Welcome and Introduction

Ken Goad welcomed the group and asked each of the attendees to introduce themselves. He encouraged participation from all stakeholders as they heard from the presenters about the future of F-Canyon. Mike Schoener was introduced as the meeting facilitator.

Canyon Utilization

Sachiko McAlhany began her presentation with a reminder of the Defense Nuclear Facilities Safety Board (DNFSB) letter that expressed concerns to DOE on the proposed shutdown of F-Canyon. She said that while the formal written response to the DNFSB has not been submitted at this time, her presentation is an explanation of DOE's reasoning as to why it is appropriate to proceed with the planning for the

shutdown of F-Canyon. She said to understand DOE's position, it was necessary to first understand the different capabilities between the F-Area facilities and H-Area facilities.

She stated F-Canyon has jumbo-sized equipment, which allows for the dissolving and processing of significant quantities of depleted and natural uranium with plutonium (Pu). The key to understanding the materials most suitable for F-Canyon is recognizing that the material must be less than 1% Uranium-235 (U-235). It can also handle small batches of low-fired oxides. She said only material with very low fissile content is suitable for F-Canyon due to criticality concerns. As of March 2002, all materials that are known to be suitable for F-Canyon have been processed.

According to McAlhany, FB-Line converts Pu solutions to metal. Ongoing characterization activities and the 3013 packaging and stabilization efforts will continue for several more years. She said FB-Line also has the capability of dissolving low- fired oxides and residues. These materials are more suitable for the B-Lines due to their smaller sized dissolvers. With F-Canyon's large dissolvers, more effort is required to track the special nuclear material.

In contrast, H-Canyon has large equipment but is not jumbo sized and has a different chemistry. It is able to dissolve and process significant quantities of enriched uranium including material that is up to 93% U-235. It also can handle small batches of low-fired oxides, neptunium targets, and Pu metals. HB-line has the capability of handling both low and high fired Pu.

McAlhany offered a comparison of the known materials suitable for SRS processing that included the constituents of concern. She pointed out that there were not materials that were suitable for F-Canyon that couldn't also be handled in H area. McAlhany said if canyon processing were necessary, the materials are more amenable for H area. She also stated that modifications to F-Canyon in order to process of offsite Pu materials would be more costly than H area facilities and would not enable a significant acceleration in disposition of materials.

McAlhany fielded numerous questions from the audience. She stressed DOE's position is based on the best use of resources while meeting all stabilization commitments. She also said that no irreversible actions will take place in F-Canyon until the concerns raised by the DNFSB have been resolved.

F-Canyon Suspension

Philip Breidenbach opened his presentation with an overview of the nuclear initiative to accelerate facility closure and thereby reduce risk. He explained that the accelerated approach to closing F-Canyon and later FB-Line would result in significant cost savings.

Breidenbach explained the differences between shutdown and suspension. He said that F-Canyon is currently in Phase 3 of a four-phase suspension process, but said there is still much work to do and decisions yet to be made. He echoed McAlhany's comment that the actions taken up to this point are not irreversible.

One of the most significant decisions is the determination of an end-state. Under the current WSRC proposal, activities are underway to prepare for a possible cold, dark, and dry canyon. In this proposed end-state, minimal surveillance and maintenance requirements would be established to ensure the canyon's end state poses minimal risk. These requirements would include roof maintenance, lighting, and an operating exhaust fan. He stated these factors combined with an inspection program would ensure that the canyon could be managed in the most cost-effective manner.

Breidenbach stated different facility end states are possible, but the costs would be much higher. He said if F-Canyon were to reach the cold dark and dry state, recovery activities to reinstate canyon operations would be cost prohibitive.

To further discuss the issues to be resolved to reach full suspension, Breidenbach introduced Steve Williams. Williams stated that while the product stabilization is complete, facility stabilization and equipment shutdown is in progress. He identified the following issues as significant to reaching full suspension:

1. Transfer of Chemical Make-Up and Inventory Reduction
2. Handling Contaminated Water
3. Alternate Method of Disposal of Laboratory Solutions
4. Disposition of Process Solvent
5. Disposition of DU Solutions

Williams discussed the issues and explained that a team has been assigned to determine the optimum solution for each issue.

Information was also provided on staffing plans and timelines. Williams and Breidenbach answered numerous questions from the audience. They concluded their presentation with a commitment to provide regularly scheduled updates to the CAB to seek productive stakeholder involvement.

Public Comment

Requests for public comment were made and upon no additional comments, the meeting was adjourned

NOTE: As a follow-up item, there were questions related to suspension activities that were not answered because the specific information was not readily available. These questions and associated answers are included in Attachment A to this document.

Meeting handouts may be obtained by calling 1-800-249-8155.

Attachment A
5/20/02 Nuclear Materials Committee Meeting
Questions and Answers

1. *How are you going to move defense waste to a RCRA (CIF) facility?*

   Answer: The CIF Solvent tanks have always been RCRA permitted. If CIF were still operational these tanks would be the location spent solvent would be sent, this is still true without CIF operational. The Waste Acceptance Criteria is still in place for receipt into the CIF Solvent tanks. Tanker trucks are available for the delivery. Two empty tanks are available for the current canyon solvent, if the solvent is non-RCRA it remains non-RCRA unless mixed with the current solvent in the other two CIF Solvent tanks. It will be in the Sites interest to maintain the segregation between the RCRA and non-RCRA solvents.

2. *You said you were going to neutralize uranyl nitrate solutions ... what are you going to do with the solids?*

   Answer: The entire neutralized uranyl nitrate solution will be sent, solids included to Saltstone. This is no different than slurries destined for HLW are handled though these slurries would qualify as LLW. The revised Performance Assessment and previous and ongoing studies for grout formulation will define the solids mass allowed per volume of Saltstone grout. E-Area Vault Performance Assessment results already are an indicator that there is a high potential for success for this option. Regardless Task Request have been made to develop Kd factor

specifically for the DU material if needed for future changes to the Saltstone Performance Assessment.

3. *The decision for cold, dark and dry forces you to do a NEPA analysis by the law. You need this type of evaluation for the decisions you are making. I don't believe a categorical exclusion is appropriate. NOTE: Agreement to educate him on NEPA process was offered.*

   Answer: The NEPA process encompasses the following basic steps: (a) identification and description of the proposed action, (b) determination of the appropriate level of NEPA review and documentation, (c) preparation of the required NEPA documentation, and (d) DOE's decision-making process. The proposal to place the canyon in a cold, dark, and dry state is the first step in the identification and description of the proposed action. The NEPA level determination will be initiated through the completion of an Environmental Evaluation Checklist, which is ultimately approved by the DOE-SR NEPA Compliance Officer.

   There are three levels of NEPA review and documentation: (a) Categorical Exclusions (CX), (b) Environmental Assessments (EA), and (c) Environmental Impact Statements (EIS). The procedures for NEPA compliance and implementation at DOE sites are contained in 10 CFR Part 1021. Subpart D (Section 1021.400) describes the classes of actions that normally do not require preparation of either an EIS or an EA, for which a CX would be appropriate.

   In similar projects for the deactivation of canyons at the Hanford site and the Oak Ridge Y-12 plant, DOE concluded the actions did not require preparation of either an EA or an EIS. Based on this precedence, most activities associated with the F Canyon deactivation proposal are anticipated to be similar to those described in one of two generic CX categories contained in Appendix B to Subpart D:

   - B1.27, Activities that are required for the disconnection of utility services such as water, steam, telecommunications, and electrical power after it has been determined that the continued operation of these systems is not needed for safety.
   - B1.28, Minor activities that are required to place a facility in an environmentally safe condition where there is no proposed use for the facility. These activities would include, but are not limited to, reducing surface contamination, and removing materials, equipment or waste, such as final defueling of a reactor, where there are adequate existing facilities for the treatment, storage, or disposal of the materials, equipment or waste. These activities would not include conditioning, treatment, or processing of spent nuclear fuel, high-level waste, or special nuclear materials.

   The canyon operations and nuclear material processing to bring the facility to its current state, ready for deactivation, were analyzed under NEPA and documented in the Interim Management of Nuclear Materials EIS.

4. *Two years ago DOE granted itself a national security exemption to use containers that don't pass the government crush test and they were the DT-22s ... to ship from Rocky Flats to SRS. Where does that stand and are they going to use the DT-22s...? Why did DOE get the exemption to do this?*

   The Code of Federal Regulation 10CFR 71.73 requirement requires radioactive material packages to be crush tested under certain conditions. The DT-22 is certified in accordance with 10 CFR 71. However, some materials planned for shipment by the DOE in the DT-22 would invoke the requirement to perform a crush test in accordance with 10 CFR 71. At that time, DOE elected to pursue a National Security Exemption as opposed to performing the crush test.

The current plans are to use the DT-22's to ship materials that clearly meet certificate of compliance for that shipping package. The material that was to be shipped under National Security Exemption would now be sized reduced (cut into smaller size) and shipped in the 9975-shipping container.